

CRUISE SHIP WHITE PAPER

United States Environmental Protection Agency

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I. EXECUTIVE SUMMARY

On March 17, 2000, the Bluewater Network sent a petition to Administrator Carol Browner on behalf of 53 organizations, asking the Environmental Protection Agency (EPA) to take "regulatory action on measures to address pollution by cruise ships." The petition specifically calls for an investigation of wastewater, oil and solid waste discharges from cruise ships, and the implementation of policy or regulatory changes if necessary to assure that these discharges do not threaten the marine environment. In response to the petition, EPA agreed to study cruise ship discharges and waste management approaches.

This EPA paper provides preliminary information regarding cruise ships and waste management practices and provides some preliminary recommendations regarding EPA's response to the petition. It is not intended to provide an in-depth review of the issues or propose final answers to the questions and concerns posed by the petition. The options presented in the paper should not be interpreted as Agency recommendations or as a decision on the Bluewater Network petition. It draws upon existing, readily available, information sources including the petition and documents produced by the cruise line industry and lays the groundwork for responding to the petition. There may also be some U.S. Coast Guard activities addressing environmental regulation of cruise ships which are not described in this paper.

This white paper recommends the following EPA actions:

- (1) Conduct an assessment of:
 - the volumes and characteristics of cruise ship waste streams and their potential impact on water quality and the marine environment;
 - the effectiveness of existing programs (regulatory and non-regulatory) for managing those waste streams; and
 - options for better environmental management of cruise ship waste streams including the issuance of regulations and/or voluntary environmental management programs such as public-private partnerships.
- (2) Solicit additional information from the petitioners, other environmental groups, the cruise ship industry, government agencies, and the public for incorporation into the assessment. Hold public information hearings in Los Angeles, California (Sept. 6, 2000); Juneau, Alaska (Sept. 8, 2000); and Miami, Florida (Sept. 12, 2000) where there is a large amount of cruise ship traffic as a way to solicit this information.
- (3) Once the assessment is drafted, make it available to the public.
- (4) Establish an interagency workgroup with EPA and the Coast Guard in primary roles to review the assessment and take appropriate action.
- (5) Continue to support Coast Guard, State and industry efforts to improve cruise ship waste management practices while assuring that these efforts are consistent with national policy and regulations.

II. BACKGROUND

A. Cruise Ship Industry

The worldwide cruise ship fleet includes more than 223 ships that carried an estimated 9.5 million passengers in 1998, according to industry sources referenced in a report issued by the Government Accounting Office (GAO) in February 2000.¹ About one-half of the fleet was positioned in the North American market. Over a 6-year period (1993-98), cruise ship embarkations from North American ports increased by almost 50 percent, and by 2003, cruise ship companies plan to add 33 new and/or bigger cruise ships to this market, which will increase passenger capacity by about 35 percent. The major U.S. ports of call are located in Florida. A large number of passengers also embark from ports in Alaska, California, Louisiana, Massachusetts, New York, Puerto Rico, and Texas.

The majority of cruise ships are foreign flagged, with Liberia and Panama being the most popular flag countries. Some 90 passenger cruise vessels fly under Liberian and Panamanian flags.

Twelve companies account for the majority of cruise ship activity in U.S. waters. They are: Carnival Cruises, Celebrity Cruises, Cunard, Holland America Line, International Shipping Partners, Norwegian Cruise Line, Princess Cruises, Royal Caribbean International, Europa Cruises Corporation, Tropicana Cruises, La Cruise, and Palm Beach Casino Line. Industry estimates indicate that the cruise line industry contributed more than \$11 billion to the U.S. economy last year by buying goods and services from vendors in all 50 states, and generated more than 170,000 jobs for U.S. citizens.²

According to the GAO report, cruise ships were involved in 87 confirmed illegal discharge cases from 1993 to 1998. Most of these involved the accidental discharge of oil or related substances. A few of the 87 cases involved large numbers of illegal discharge incidents. In addition, 17 other alleged incidents were referred to countries where the cruise ships were registered because the incidents occurred outside U.S. waters or because jurisdiction could not be clearly ascertained. The majority of these incidents were adjudicated under the Coast Guard's civil and administrative penalty authorities. The Department of Justice also prosecuted 10 criminal cases against cruise ship companies and obtained financial penalties ranging from \$75,000 to \$18 million.³

B. Blue Water Network Petition

The petition expresses concern about cruise ship wastewater discharges to the marine environment and solid and hazardous waste pollution. It reports that these vessels can hold as many as 5,000 passengers and crew and generate as much as 11 million gallons of wastewater per day. The petition characterizes the industry's environmental record as "dismal" and calls for stricter regulation and oversight.

According to the petition, cruise ships generate the following waste streams:

- **Black Water** (sewage): A typical cruise ship generates as much as 210,000 gallons during a one-week voyage. The petition argues that Coast Guard regulation, inspection, and enforcement mechanisms are inadequate to ensure compliance with section 312 of the Clean Water Act (CWA).

¹ *Marine Pollution: Progress Made to Reduce Pollution by Cruise Ships, but Important Issues Remain* (GAO/RCED-00-48). Henceforth referred to in this paper as the "GAO Report".

² As reported on the International Council of Cruise Lines' website (<http://www.iccl.org>) on August 3, 2000.

³ GAO Report, pp. 4, 18, 22

- **Gray Water** (shower, sink, and galley water): A typical cruise ship is estimated to generate up to one million gallons a week. The petition states that current Federal regulations do not restrict gray water discharges except in the Great Lakes, and that gray water may pose environmental impacts as great or greater than sewage.
- **Hazardous Waste** (waste from dry cleaning, photo labs, paint, and maintenance chemicals, etc.): The petition suggests that a lack of clarity in EPA's hazardous waste requirements for vessels under the Resource Conservation and Recovery Act (RCRA) results in insufficient regulation and oversight of cruise line hazardous waste management practices.
- **Solid Waste** (food waste, plastic, paper, wood, cardboard, cans, glass, etc.): The petition suggests cruise ships often dump solid waste at sea in violation of the Marine Protection, Research, and Sanctuaries Act (MPRSA) and the Act to Prevent Pollution from Ships (APPS).
- **Oily Bilge Water:** Cruise ships are estimated to generate up to 25,000 gallons on a one week voyage. The petition states that improved monitoring and enforcement is needed to ensure that cruise ships comply with Coast Guard regulations (33 CFR §§ 151, 153 and 155), which implement the CWA as amended by the Oil Pollution Act (OPA).

The petition requests that EPA: (1) assess the volumes and characteristics of cruise ship waste streams and their potential impact on water quality and the marine environment, (2) examine existing Federal regulations governing cruise ship waste streams, and (3) form recommendations on how to better control and regulate these waste streams. The petition suggests this assessment should include, but not be limited to, the following:

- Quantification of the volumes of all waste streams from large passenger vessels and assessment of the adequacy of existing regulations to control such wastes;
- Delineation of options for a comprehensive monitoring, record-keeping and reporting regulation for all pollutants discharged into US waters and wastes offloaded at U.S. ports from large passenger vessels;
- Evaluation of the effect of repealing 40 CFR § 122.3(a), thereby requiring National Pollution Discharge Elimination System (NPDES) permits for discharges of sewage, gray water and other "incidental" discharges;
- Consideration of the need for, and best means of, more strictly defining and regulating gray water; and
- Consideration of the need for clarifying the regulations governing hazardous and toxic wastes generated on cruise ships, both while at sea and once offloaded, and a delineation of options for whether and how these regulations should be strengthened.

The petition requests that EPA produce a report of its investigations and findings with a list of options to address their concerns.

On August 2, 2000, the Bluewater Network submitted an addendum to the petition requesting that EPA also examine and make recommendations on how to address air pollution from cruise ships. EPA is considering this request, but has not made a final decision on whether to include air pollution in this assessment or to address it through a separate agency evaluation.

C. Other Related Issues

1. Ballast Water Petition

EPA is in the process of responding to a petition received in 1999, which requested that EPA amend the vessel exclusion at 40 CFR § 122.3(a) so that NPDES permits could be used to control the introduction of non-indigenous aquatic nuisance species from vessel ballast water discharges.

While both petitions request that EPA consider revising the vessel exclusion, they raise different issues. Therefore, responses to both petitions are being coordinated but should remain separate.

2. Government Accounting Office (GAO) Report

Several days before EPA received the cruise ship petition, GAO released a report to Congress titled, *Marine Pollution: Progress Made to Reduce Pollution by Cruise Ships, but Important Issues Remain* (GAO/RCED-00-48). This report raises many of the same concerns as the petition, and forms the basis of one of the petition's requests, that EPA "implement the recommendations outlined in the GAO Report." Like the current petition, the GAO report recommends increased oversight of the cruise line industry's waste management practices. However, most specific actions recommended in the GAO report are directed toward the Coast Guard and differ from the actions requested in the petition.

3. Florida Memorandum of Understanding (MOU)

On March 16, 2000, Florida's Department of Environmental Protection (FDEP) signed an MOU with the member lines of the Florida-Caribbean Cruise Association (FCCA) regarding the FCCA's environmental practices and policies. The FCCA represents 15 member lines that use Florida ports. The MOU included FDEP's acceptance of the FCCA's Waste Management and Guidelines policy document and an agreement among FDEP, the FCCA's members, the Coast Guard, and "other appropriate entities" to work cooperatively on waste management initiatives and meet annually. The first meeting is scheduled for the fall of 2000. The principles endorsed in the MOU include:

- Complying with applicable laws and regulations;
- Maintaining cooperative relationships with the regulatory community;
- Managing waste streams;
- Minimizing waste;
- Maximizing reuse and recycling;
- Educating and training cruise vessel personnel in waste management practices;
- Embracing new technology in the management of waste streams; and
- Designing cruise vessels to be environmentally friendly.

4. Alaskan Activities

a. State Legislative Action

- The Oil Spill Safety Net Bill (SB 273) passed both houses in Alaska. It establishes a response planning standard and requires proof of financial responsibility to respond to a spill for non-tank vessels greater than 400 gross tons. A legislatively-required task force was established to determine how to implement the response planning standards established by the bill and will report back to the legislature next session.

- The TBT-Based Marine Anti-fouling Paint Ban (SB 266) was signed into law on April 14, 2000. It prohibits vessels painted with TBT from entering State waters after January 2001.
- The Cruise Ship Reporting Bills (HB 371 and SB 308) would have required large passenger vessels that enter State waters to register with the Alaska Department of Environmental Conservation and report all releases of pollutants, but neither bill passed.

b. Alaskan Cruise Ship Initiative

The Alaska Department of Environmental Conservation (ADEC) convened a steering committee to review the cruise ship industry's waste management and disposal practices. The committee is made up of representatives from ADEC, the Coast Guard, EPA, and the cruise ship industry. The steering committee chartered four work groups (air, water and solid waste, spill response, and environmental leadership) to: (1) identify waste streams and spill risks, (2) develop pollution prevention and waste management solutions, (3) assess methods to verify compliance, and (4) inform the public on progress made in this effort. These workgroups recently published a report of their work ("Report of the Work Groups," May 10, 2000).

While work on these efforts is on-going, initial workgroup achievements include:

- The cruise lines agreed not to use "doughnut holes" (areas which are not State waters, but are surrounded by State waters) for discharging waste;
- The operators of larger cruise ships agreed to not discharge gray or black water within 10 miles of Alaskan embarkation or destination ports;
- The cruise ship industry agreed to establish and maintain four spill response barges and vessels stationed throughout southeast Alaska;
- Sampling and analysis of all black and gray water discharge ports on twenty of the large cruise ships twice during the 2000 season; and
- Conducting public "Cruise Ship Awareness Days" during the summer of 2000.

Work groups will continue to work on issues including the identification of environmentally sensitive areas in Alaska that should have additional voluntary cruise ship controls or restrictions.

c. Alaskan Tribal Concerns

On March 4, 2000, the Central Council of the Tlingit and Haida Indian Tribes of Alaska passed resolution EC/00-06, *Object to Cruise Ship Dumping of Pollutants in Southeast Alaska Waters*. The resolution supported the newly formed (Alaskan) Interagency Cruise Ship Initiative (described above), and requests Federal and State governments to:

- Prohibit all discharges from cruise lines within 12 miles of shore;
- Require all cruise lines to have discharge monitoring devices; and
- Prohibit ships caught illegally discharging from entering southeast Alaskan waters.

The resolution cites the threat that cruise line discharges will contaminate subsistence foods, a possible environmental justice issue.

Other Southeast Alaska Tribes have expressed concerns over cruise ship pollution including Douglas Indian Association, Organized Village of Kake, and Yakutat. EPA Region 10 is initiating consultation with all potentially affected tribes in the Pacific Northwest and Alaska.

5. California and Hawaii Legislation

California Bill AB 2746 would require cruise ships operating in California waters to monitor and record specific details about the quantities and qualities of all waste materials released into the environment and offloaded at California ports. It would also require them to submit quarterly reports to the State Water Resources Control Board. The Bill also asked the Board to report on the potential impacts of waste materials on water quality by June 2004 along with recommendations on whether and how such discharges should be regulated. AB 2746 passed through the California Assembly on March 31, 2000, and was reviewed by the Senate Committee on Environmental Quality on August 7, 2000.

Hawaii is also developing legislation to address cruise ship discharges.

6. Recent Court Decision on State Regulation

As noted above, there are ongoing State and Tribal efforts to impose some regulatory environmental requirements on cruise ships. However, a recent Supreme Court decision, U.S. v. Locke, 120 S.Ct. 1135 (2000), may affect the States' ability to impose certain requirements on vessels.

In this opinion, the Supreme Court held that certain more stringent Washington State regulations regarding navigation watch procedures, crew English language skills and training, and maritime casualty reporting are pre-empted by the comprehensive Federal set of rules established by the Coast Guard that govern oil tankers. However, the Locke decision concerned a specific provision of the Oil Pollution Act; its holding may or may not extend to State regulation of cruise ships under other Federal laws.

III. CURRENT REGULATION OF CRUISE SHIP WASTE STREAMS

A. Laws and International Conventions

1. Section 312 of the Clean Water Act

Section 312 establishes effluent standards for marine sanitation devices (MSDs), on-board equipment designed to treat or store vessel sewage before discharging it, and procedures for the designation of "no-discharge zones" (NDZs) for vessel sewage. As a general matter, section 312 is implemented jointly by EPA and the Coast Guard. With respect to vessel sewage, the Coast Guard has primary enforcement authority, though States may also enforce Federal standards. See CWA § 312(k). The implementing regulations for MSDs and NDZs can be found at 40 CFR § 140.

a. Marine Sanitation Devices

Section 312 requires MSDs for all commercial and recreational vessels that are equipped with installed toilets. However, section 312 does not apply to vessels beyond the three-mile limit of U.S. territorial waters. EPA is responsible for developing effluent performance standards for MSDs and the Coast Guard is responsible for MSD design, construction, installation, and operation regulations, and certifying MSD compliance with EPA regulations. See CWA § 312(b)(1). Section 312(f)(1)(B) provides that States may not establish MSD standards different from these Federal standards, except on house boats.

There are three types of MSDs used to meet different needs and effluent level requirements. The Type I MSD is a flow-through device where the sewage travels through an on-board treatment system and is directly discharged. The Type I MSD is required to produce an effluent having a fecal coliform bacterial count not greater than 1000 per 100 milliliters of water with no visible floating solids. The Type II MSD is

similar to the Type I device, except it is required to produce an effluent having a fecal coliform bacteria count not greater than 200 per 100 milliliters of water and suspended solids not greater than 150 milligrams per liter of water. Type III MSDs are commonly called holding tanks because the sewage is deposited into a holding tank until it can be properly disposed. Vessels under 65 feet in length with installed toilets must be equipped with a Type I, Type II, or Type III MSD. Vessels over 65 feet in length are required to equip all installed toilets with a Type II or Type III MSD. Most cruise ships employ holding tanks. Whether a cruise ship discharges blackwater at sea or to onshore facilities depends on the circumstances surrounding each voyage (e.g., whether the ship will be on the open ocean, whether facilities for shore-side disposal are available).

b. No Discharge Zones (NDZs)

Section 312(f)(3) allows for the establishment of NDZs for vessel sewage. Under section 312(f)(4)(A) and (B), EPA can issue regulations establishing NDZs for vessel sewage if a State certifies that the waters need additional protection to protect environmentally sensitive areas such as shellfish beds, coral reefs, and/or fish spawning areas or if the waters are used for drinking purposes. Among the factors considered when establishing NDZs are whether there are safe and adequate pump out facilities for shore disposal of vessel sewage.

2. The Oil Pollution Act of 1990 (OPA) and Section 311 of the Clean Water Act

OPA (33 U.S.C. §§ 2701 et seq.) is a comprehensive statute designed to expand oil spill prevention, preparedness, and response capabilities of the Federal government and industry. It amends section 311 of the CWA to: clarify Federal response authority, increase penalties for spills, establish Coast Guard response organizations, require tank vessel and facility response plans, and provide for contingency planning in designated areas.

OPA applies to cruise ships and prohibits the discharge of oil or hazardous substances, in such quantities as may be harmful, into or upon: U.S. navigable waters, adjoining shorelines, waters of the contiguous zone, or waters which may affect natural resources in the Exclusive Economic Zone (also known as the "EEZ" and extending some 200 miles offshore). Within twelve miles of shore, OPA's regulations prohibit the discharge of oil unless it is passed through an oil-water separator, and does not cause a visible sheen or exceed 15 ppm. See 33 CFR § 151.10. Beyond twelve miles, oil or an oily mixture may be discharged while proceeding en route if the oil content of the effluent without dilution is less than 100 ppm. Vessels are required to maintain an Oil Record Book, which records, among other things, the disposal of oily residues and the discharge or disposal of bilge water. 33 CFR § 151.25.

3. The International Convention for the Prevention of Pollution from Ships (MARPOL) and the Act to Prevent Pollution From Ships (APPS)

The MARPOL Convention governs the release of oil, hazardous substances, and garbage into the marine environment. MARPOL consists of various annexes. Annex I addresses oil pollution and places requirements on new oil tankers. Annex II governs noxious liquids carried in bulk. Annex III governs packaged harmful substances. Annex IV deals with the control of sewage and other "grey water." Annex V deals with garbage (which includes plastics, metal, glass, galley wastes and other materials). Annex VI addresses vessel air emissions. The Act to Prevent Pollution from Ships (33 U.S.C. §§ 1901 et seq.) is U.S. legislation implementing certain provisions of MARPOL.

a. Act to Prevent Pollution from Ships

APPS applies to all U.S. flagged ships anywhere in the world and to all foreign flagged vessels operating in the navigable waters of the United States or while at a port or terminal under the jurisdiction of the United States. With respect to oil and noxious substances, APPS places requirements only on seagoing ships (including cruise ships). Those requirements limit discharges of oil and noxious substances,

establish reporting requirements for discharges, and establish specific requirements for monitoring equipment and record keeping aboard vessels. In particular, the regulations require that vessels covered by APPS and MARPOL keep Oil Record Books in which all discharges, disposal, and transfers of oil are kept.

APPS was amended by the Marine Plastic Pollution Research and Control Act of 1987, which implements the provisions of Annex V of MARPOL relating to garbage and plastics. It applies to all vessels, whether seagoing or not, regardless of flag, operating on navigable waters and the EEZ of the United States. It applies to U.S. flagged vessels wherever they are located.

Under the regulations implementing APPS, the discharge of plastics, including synthetic ropes, fishing nets, plastic bags, and biodegradable plastics, into water is prohibited. Discharges of floating dunnage, lining and packing materials are prohibited in navigable waters and waters less than 25 nautical miles from the nearest land. Other garbage including paper products, rags, glass, metal, bottles, crockery, and similar waste cannot be discharged into navigable waters or waters within twelve nautical miles from the nearest land, unless macerated. However, even macerated wastes cannot be discharged within three miles of land. There are some exceptions for emergencies.

Under APPS, the definition of “ship” includes fixed or floating platforms. However, there are separate garbage discharge provisions applicable to these units. For these platforms, and for any ship within 500 meters of these platforms, disposal of all types of garbage is prohibited. Additionally, all manned, oceangoing U.S. flagged vessels of 12.2 meters or more in length that are engaged in commerce, and all manned fixed or floating platforms subject to the jurisdiction of the United States, are required to keep records of garbage discharges and disposals.

b. Annex IV

Although Annex IV was drafted to regulate sewage discharges from vessels, it has not entered into force, and has not been ratified by the United States. Some nations may abide by it, and in such cases, the Annex might apply to cruise ships that are flagged in those countries. However, as noted above, vessels operating in U.S. navigable waters (including cruise ships) must comply with the regulations implementing section 312.

Annex IV prohibits the discharge of all vessel sewage within 4 miles of shore unless the vessel has in operation an approved sewage treatment facility that has been certified and meets certain requirements. Between four and twelve miles from shore, a vessel may discharge sewage that has undergone maceration and chlorination. Beyond twelve miles, no treatment of vessel sewage is required.

4. Safety of Life at Sea Convention (SOLAS) 1960, 1974

SOLAS is a major convention dealing with maritime safety and covers a wide range of measures to improve vessel safety including design, construction and equipment standards. Many of its provisions apply to passenger ships. SOLAS is overseen by the International Maritime Organization (IMO). The IMO is an established United Nations governing body that sets standards and adopts regulations that apply to all vessels that operate international voyages. The IMO is based in London and includes representatives from 152 major maritime nations including the United States. Since its inception in 1948, the IMO's most important objectives have been to improve vessel safety and to prevent marine pollution.

The SOLAS Convention specifies minimum standards for the construction, equipment, and operation of ships, compatible with their safety. Flag states are responsible for ensuring that ships under their flag comply with SOLAS requirements, and a number of certificates are prescribed in the Convention as proof that this has been done. Control provisions in SOLAS allow contracting governments to inspect

ships of other contracting states if there are clear grounds for believing that the ship and its equipment do not substantially comply with the requirements of the Convention.

In 1998, new amendments to SOLAS (Chapter IX) entered into force to make mandatory the International Safety Management (ISM) Code, which had been adopted by the IMO in November 1993 (Assembly resolution A.741(18)). Chapter IX applies to passenger ships and tankers from that date and to cargo ships and mobile drilling units of 500 gross tons and above from July 1, 2002. These requirements are also codified in the Coast Guard regulations. See 33 CFR part 96.

The ISM Code establishes safety management objectives which are:

- To provide for safe practices in ship operation and a safe working environment;
- To establish safeguards against all identified risks; and
- To continuously improve safety management skills of personnel, including preparing for emergencies.

The Code requires Safety Management System (SMS) Plans to be established by shipowners or any person, such as the manager or bareboat charterer, who has assumed responsibility for operating a ship. Those entities must establish and implement a policy for achieving these objectives. This includes providing the necessary resources and shore-based support. The procedures required by the ISM Code are documented and compiled in a Safety Management Manual which is kept on board. While the primary focus of the SMS Plans and Safety Management Manuals is safety, they also have a substantial environmental protection component.

SMS Plans frequently employ the use of third party verification companies (also known as classification societies) such as Det Norske Veritas, Lloyds Register, and American Bureau of Shipping to certify compliance with ISM standards. Oversight for compliance with ISM requirements is carried out through ISM audits by the classification societies and by inspections by the flag states and the Coast Guard.

5. Resource Conservation and Recovery Act (RCRA)

RCRA imposes management requirements on generators or transporters of hazardous waste. Cruise ships regularly use chemicals for operations ranging from routine maintenance such as cleaning and painting, to passenger services such as dry cleaning, beauty parlors, and photography labs. Thus, cruise ships or passenger service facilities within cruise ships may be subject to RCRA requirements. Issues related to RCRA include the point at which a hazardous waste is considered generated; the parties that are generators, storers, treaters or disposers; and the applicability of RCRA requirements to these parties.

6. Marine Protection, Research, and Sanctuaries Act (MPRSA)

Title I of MPRSA (33 U.S.C. §§ 1401 et seq.) (also called the Ocean Dumping Act) provides authority for EPA and the Corps of Engineers to regulate ocean dumping. MPRSA prohibits (1) the transportation of any material from the United States for the purpose of disposal without a permit; and (2) the transportation of any material by U.S. flagged vessels, U.S. departments, agencies, or instrumentalities for the purpose of dumping it into ocean waters without a permit.

The Act also prohibits any person from dumping, without a permit, any material transported from a location outside the United States into the territorial seas or into the contiguous zone, to the extent it may affect the territorial seas or the territory of the United States. EPA is responsible for issuing permits that regulate the disposal of materials at sea using environmental criteria. However, for dredged material disposal, the Corps of Engineers is responsible for issuing permits. The routine discharge of effluent

incidental to the propulsion of vessels is explicitly exempted from the definition of “dumping” in MPRSA. MPRSA § 3(f). EPA has civil judicial, criminal, and administrative enforcement authority for violations of the Act’s dumping prohibitions. MPRSA § 105(a) and (b)). Citizen suits may be brought under MPRSA section 105(g).

Under MPRSA, the ocean dumping of sewage sludge and industrial waste is prohibited. In addition, no radiological, chemical, and biological warfare agents; high-level radioactive waste; or medical waste may be disposed of in ocean waters. States may adopt and enforce requirements for ocean-dumping activities that occur in their jurisdictional waters.

Title III of MPRSA establishes the National Marine Sanctuary Program to identify, designate, and manage areas of the marine environment with nationally significant aesthetic, ecological, historical, or recreational values as National Marine Sanctuaries. The primary objective of this law is to protect marine resources, such as coral reefs, sunken historical vessels, or unique habitats, while facilitating all "compatible" public and private uses of those resources. Title III is overseen by the National Oceanic and Atmospheric Administration (NOAA). Since it was enacted in 1972, it has been reauthorized in 1980, 1984, 1988, 1992, and 1996. The 1988 amendments (Public Law 100-627, Title II) contained provisions for compensation for the destruction or loss of sanctuary resources including vessel liability provisions, which apply to oil spills, groundings, or other actions that damage marine sanctuary resources. Marine sanctuaries are managed according to management plans prepared by NOAA on a site-by-site basis. Those management plans may address pollutant streams from vessels such as cruise ships that operate within sanctuaries.

7. The Shore Protection Act (SPA)

The Shore Protection Act (33 USC §§ 2601 et seq.) was enacted on November 18, 1988, to minimize trash, medical debris, and other unsightly and potentially harmful materials from being deposited in the coastal waters of the United States as a result of inadequate waste handling procedures by vessels transporting wastes on U.S. coastal waters and associated loading and off-loading facilities. Under this Act, EPA is responsible for developing regulations governing the handling of wastes and the Department of Transportation is responsible for issuing permits and enforcing the regulations. The Act outlines waste handling practices for vessels and waste transfer stations.

8. Sections 301 and 402 of the Clean Water Act

Section 301 prohibits the discharge of any pollutant from a point source into waters of the United States except in compliance with permits and other CWA requirements. Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit program to regulate the discharge of pollutants from point sources to waters of the United States. The Clean Water Act’s definition of point sources includes vessels.

EPA regulations at 40 CFR § 122.3(a) exclude certain discharges from NPDES requirements. It reads as follows:

The following discharges do not require NPDES permits: (a) Any discharge of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley sink wastes, or any other discharge incidental to the normal operation of a vessel. This exclusion does not apply to rubbish, trash, garbage, or other such materials discharged overboard; nor to other discharges when the vessel is operating in a capacity other than as a means of transportation such as when used as an energy or mining facility, a storage facility or a seafood processing facility, or when secured to a storage facility or a seafood processing facility, or when secured to the bed of the ocean, contiguous zone or waters of the United States for the purpose of mineral or oil exploration or development.

EPA requires permits for oil and gas facilities, exploratory sea bed mining, and sea food processing vessels out to 200 miles offshore (i.e., to the edge of the Exclusive Economic Zone (EEZ)). If there were cruise ship discharges which did not fall within the vessel exclusion, NPDES permit coverage would be required.

B. U.S. Coast Guard Oversight

In general, the U.S. Coast Guard has primary oversight responsibility for ensuring that vessels such as cruise ships comply with domestic laws and international conventions (i.e., CWA section 312, OPA, MARPOL/APPs, and SOLAS). Other agencies have the authority to ensure compliance with certain environmental requirements. The Coast Guard conducts quarterly inspections of all cruise ships operating in U.S. waters. Those inspections are usually scheduled in advance and performed in port since it would be difficult and disruptive to passengers to conduct surprise inspections while cruise ships are underway. The Coast Guard may also use aircraft to detect illegal pollution discharges from vessels. One concern raised in the GAO report is that the Coast Guard's primary focus on ship and passenger safety, coupled with the large size of most cruise ships, the limited time for inspection, and limited staff resources make it difficult for the Coast Guard to perform detailed reviews on the status of a vessel's environmental compliance.

IV. OPTIONS FOR ADDRESSING CRUISE VESSEL POLLUTION

Below are options that EPA is considering for addressing pollution from cruise ships. It is important to note that the regulatory regime for control of pollution from cruise ships has substantial overlap with the regulations governing other commercial vessels. Accordingly, regulatory revisions or policy changes for the enhancement of pollution control from cruise ships may have direct implications for pollution management by other commercial vessels. Because this paper is only providing preliminary information on the subject of cruise ship pollution and pollution management practices, the options described below should not be interpreted as agency recommendations or as a decision on the Bluewater Network petition.

Regardless of the options presented, it is important that cruise ships be properly defined. At present, no single definition of "cruise ship" exists to conveniently frame a discussion on issues articulated by the petition. For example,

- U.S. shipping regulations (46 CFR 70.10-35) indicate that "cruise ships" may include all passenger vessels over 100 gross tons, or carrying more than 12 passengers.
- California Bill AB 2746 in its current form (discussed above) defines "large passenger vessel" as "a vessel of 300 gross registered tons or greater that is engaged in the carrying of passengers for hire." The definition excludes some vessels, including "vessels without berths or overnight accommodations for passengers."
- The Alaska Cruise Ship Initiative (discussed above) used a much higher tonnage threshold, 20,000 gross tons, in their working definition of cruise ships for their analysis of cruise ship discharges.

A suitable working definition of "cruise ship" is needed to provide focus to the study of cruise ship discharge issues. Available publications indicate the following criteria could be considered individually and in combinations when defining a "cruise ship":

- Vessel's gross tonnage
- Number of passengers

- Presence of overnight passenger accommodations
- Vessel's primary purpose
 - Recreational transportation (e.g., sightseeing cruise)
 - Nontransportation types of recreation (e.g., floating casinos)
 - Nonrecreational transportation (e.g., passenger ferries)

A. Revising or Issuing New Regulations or Issuing Policy

Different waste streams in cruise ships are governed by different statutes and regulations. Options for issuing new regulations and policy are addressed below for each of the waste streams on cruise ships.

1. Sewage

Sewage from vessels is regulated under section 312 of the CWA. While section 312 has not been applied outside the three mile limit, EPA could interpret section 312 as applying to any waters where the discharge of sewage from vessels might affect waters within the three mile limit. Under this approach, section 312 would be brought to bear on cruise ship discharges to waters that are beyond the three mile limit but within bays, fords, sounds, or other water bodies and likely to adversely affect water quality inside the three mile limit.

Another course of action that the Agency and Coast Guard may want to consider is whether the standards for MSDs should be revised. Those standards were developed in 1976 and may no longer be sufficiently stringent in light of available new technologies. There is information to indicate that the performance of many MSDs decreases over time. New or revised standards could account for the operational life of MSDs.

2. Gray Water

The petition requests that EPA evaluate using the NPDES program to regulate gray water and other incidental discharges from cruise ships. However, as noted above, gray water ("laundry, shower, and galley wastes") is excluded from NPDES requirements as a discharge incidental to the normal operation of a vessel at 40 CFR § 122.3(a). The exclusion was first promulgated on May 22, 1973 (38 FR 13530), and its basis is found in language of the CWA which distinguish vessels from other point sources in several respects.

In defining "pollutant", section 502(6) expressly excludes "'sewage from vessels within the meaning of [section 312]". Section 312's definition of "sewage" includes gray water with respect to commercial vessels on the Great Lakes. CWA § 312(a)(6). Also, section 502(12) defines "discharge of a pollutant" to include: "(A) any addition of any pollutant to navigable waters from any point source, (B) any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft." (Emphasis added.) This distinction is significant since as a general matter, navigable waters extend only three miles off shore.⁴

⁴ The Clean Water Act treats navigable waters, the contiguous zone, and the ocean as distinct entities. Navigable waters are defined in section 502(7) to mean the waters of the U.S., including the territorial seas. The territorial seas are defined in section 502(8) as "the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of three miles." The CWA defines the contiguous zone to mean the entire zone established or to be established by the U.S.

The initial exclusion extended to “discharges of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley sink wastes, or any other discharge incidental to the normal operation of a vessel.” 38 FR 13530. It did not apply to “rubbish, trash, garbage, or other such materials discharged overboard, nor to discharges when the vessel is operating in a capacity other than a vessel such as when a vessel is being used as a storage facility or cannery.” *Id.* When promulgating the exclusion, EPA explained in the preamble that “[m]ost discharges from vessels to inland waters are now clearly excluded from the [NPDES] permit requirements. This type of discharge generally causes little pollution and exclusion of vessel wastes from the permit requirements will reduce administrative costs drastically.” 38 FR 13528.

In 1979, EPA modified the vessel exclusion to clarify that it did not extend to discharges when the vessel is operating in a capacity other than as a means of transportation such as when being used as an energy or mining facility, a storage facility, or a seafood processing facility, or when secured to the bed of the ocean, contiguous zone or waters of the United States for the purpose of mineral or oil exploration or development. 44 FR 32902 (June 7, 1979). In proposing this language, EPA concluded that Congress did not intend to exclude from NPDES requirements vessels that were not used for the primary purpose of transportation. *See* 43 FR 37079 (Aug. 21, 1978).

The regulatory history of section 122.3(a) does not describe what types of discharges are incidental to the normal operation of a vessel other than those specifically enumerated in the exclusion. However, it does give examples of discharges which would not qualify for the exclusion (e.g., discharges of rubbish, trash, garbage, or other such materials discharged overboard; and discharges when the vessel is operating in a capacity other than a means of transportation). Subsequent amendments to the Clean Water Act define “pollutant” to exclude “sewage from vessels or a discharge incidental to the normal operation of a vessel of the Armed Forces [within the meaning of section 312].” CWA § 502(6). However, this exclusion of incidental discharges from the definition of “pollutant” only applies to vessels of the Armed Forces.

The language of the CWA only includes gray water in its definition of sewage for the express purpose of regulating commercial vessels on the Great Lakes. Therefore, EPA might be able to narrow the NPDES exclusion for gray water so that it applies only to commercial vessels on the Great Lakes. NPDES permits would be required for other discharges of gray water.

The NPDES vessel exclusion was premised on the assumption that vessel discharges, including gray water, were minor sources of pollutants as compared to other dischargers. The assessment requested by the petition will consider whether this assumption is still valid for gray water.

One possible disadvantage to using NPDES permits to regulate gray water discharges is that such an approach might result in cruise ships being subject to multiple, and possibly inconsistent, permitting requirements under different State NPDES permitting programs. Most States have approved NPDES permit programs and EPA does not issue NPDES permits to facilities which could be subject to an

under article 24 of the Convention of the Territorial Sea and the Contiguous Zone. CWA §502(9). The Convention provides that “the contiguous zone may not extend beyond twelve miles from the baseline from which the breadth of the territorial sea is measured. 15 U.S.T. § 1606 (Article 24(2)). The CWA defines the ocean as any portion of the high seas beyond the contiguous zone. *See* CWA § 502(9) and (10). On September 3, 1999, Vice President Al Gore announced that President Clinton signed a proclamation giving U.S. authorities the right to enforce environmental and other laws at sea within 24 nautical miles from shore, doubling the current 12 mile area. However, the Executive Order will not have the effect of amending any statutory definitions found in section 502(9). It might, however, result in a movement to amend such definitions legislatively.

approved State program.⁵ However, because State waters extend only three miles offshore, EPA remains the permitting authority for waters beyond the three mile limit.⁶

Pollution management plans or other environmental management system-like measures may also provide an effective means for controlling gray water and other problematic waste streams (see discussion in IV.C below).

It is also important to note that the U.S. Coast Guard interprets any food waste in galley water as garbage and thus, subject to regulation under APPS (see discussion under IV.A.3. below).

3. Solid Waste (Garbage, Trash, Plastics, etc.)

The discharge of garbage from vessels is primarily regulated under APPS, SPA, and CWA, but not RCRA. Those statutes and implementing regulations provide for comprehensive regulation of solid waste handling by vessels. However, as evidenced in the GAO report, the petition, and documented enforcement actions, better implementation of current requirements may be needed. This issue will be explored in the assessment.

4. Fuel, Oil, Oily Bilge Water

The discharge of any fuel or oil (whether in bilge water or in other forms) is subject to stringent requirements under the Oil Pollution Act and section 311 of the Clean Water Act. Although there are already strong regulatory mechanisms in place, the assessment will consider the statement in the petition that better implementation and enforcement of existing laws and regulations are needed.

5. Other Waste Streams

Many cruise ships contain facilities such as photo processing centers, beauty parlors, swimming pools and dry cleaners, whose potential discharges may cause substantial impairment of water quality. As evidenced in the GAO report, the petition, and documented enforcement actions, better implementation of current requirement may be needed to address these waste streams.

For example, if these facilities generate or otherwise involve hazardous waste as defined under RCRA, they, or the ship, may be subject to RCRA requirements. Issues related to RCRA may include the point at which a hazardous waste is considered generated; the parties that are generators, storers, treaters or disposers; and the applicability of RCRA requirements to these parties.

In addition, if the pollutants that are generated by these facilities are discharged to waters of the United States, they may be subject to NPDES and other requirements described in this paper, depending upon whether the discharge qualifies for any exclusion from these requirements. As part of the assessment, EPA expects to more closely examine the applicability of these requirements to the potential transportation, storage, disposal and discharge of hazardous wastes and other hazardous substances at these facilities on board a cruise ship. EPA may also consider whether a rule, policy or guidance is necessary to provide additional clarification on these issues.

B. Better Implementation and Enforcement of Existing Laws and Regulations

⁵ However, EPA can continue to conduct enforcement in authorized States. This includes enforcing against State NPDES permit violations

⁶ NRDC v. USEPA, 863 F.2d. 1420, 1435 (9th Cir. 1988); Pacific Legal Foundation v. Costle, 586 F.2d 650, 655-56 (9th Cir. 1978).

As part of its assessment, EPA will consider better implementation and enforcement of existing laws and regulations. Certain cruise ship waste streams such as oil, garbage, and hazardous waste are regulated under a comprehensive set of laws and regulations. However, as documented in the GAO report, these laws and regulations may not be adequately enforced or implemented.

C. Cross-Media Pollution Management Approaches

The cruise lines have recently taken a number of steps to improve their environmental performance.

1. Safety Management System Plans/Environmental Management Systems

The twelve of the major cruise line companies have implemented Safety Management System (SMS) Plans for: (1) developing enhanced waste management systems to implement the companies' environmental policies and highlight proper waste-handling procedures; (2) increasing internal and third-party audit oversight of environmental procedures to prevent illegal discharges; and (3) improving waste management and equipment to reduce or better treat waste items. These plans are certified in accordance with the International Marine Organization's (IMO) International Safety Management (ISM) Code.

SMS plans and Safety Management Manuals can embody many of the elements of an environmental management system (EMS). An EMS is a formal set of procedures and policies that describe how an organization will assess and manage its potential impacts on the environment, focusing on both regulated and unregulated activities. EMSs are not a wholesale substitute for regulations, but rather a complement to them. When implemented properly, an EMS has the potential to move an organization beyond compliance with regulations, toward a dynamic, continual process for reducing adverse impacts on the environment. The use of EMSs is widespread and growing in the private sector, and is now increasing in the public sector. Most of these efforts use the ISO 14001 International Standard for EMS⁷ as a framework, but the use of "tailored" EMSs that can respond more directly to the needs of a particular sector are also proving to be useful.

EPA is currently working with other sectors, including publicly-owned treatment works and various other public sector organizations, to encourage the use of EMSs in order to assure compliance and address significant unregulated environmental impacts. In addition, the Office of Water is now working with the poultry industry through Project XL to develop an EMS program for egg producing operations that could be implemented through general NPDES permits.

There are a number of potential benefits of adopting EMSs including:

- Addressing all significant environmental impacts of an organization, whether regulated or not;
- Emphasizing pollution prevention instead of corrective action;
- Focusing on continual improvement in environmental performance, instead of only complying with legal requirements; and

⁷ ISO 14001:1996, *Environmental Management Systems - Specification with Guidance for Use*. See also, ISO 14004:1996, *Environmental Management Systems - General Guidelines on Principles, Systems, and Supporting Techniques*; ISO 14010:1996, *Guidelines for Environmental Auditing - General Principles*; ISO 14011:1996, *Guidelines for Environmental Auditing - Audit Procedures - Auditing of Environmental Management Systems*; ISO 14012:1996, *Guidelines for Environmental Auditing - Qualification Criteria for Environmental Auditors*.

- Establishing more open and constructive relationships with outside stakeholders and regulatory agencies.

Building on the ISM Code and other EMS-based efforts that many cruise ship lines are currently implementing, it may be possible to work with the Coast Guard, States, and the cruise ship industry to develop an industry-wide EMS program. Such a program would need to focus not only on the larger companies and ships where these types of programs are fairly well established, but also on smaller companies whose operations may benefit even more greatly from this type of approach. Under this approach the SMS/EMS plans could also include enhanced monitoring of cruise ship streams and other activities that could have significant environmental impacts. The results of these plans and monitoring would be made available to the public.

Finally, as part of our overall efforts to encourage an industry-wide EMS program, EPA should encourage organizations within the cruise ship industry to apply for participation in programs like Performance Track. This program provides increased recognition and other more tangible incentives, like reduced reporting and monitoring, for facilities that can demonstrate high levels of compliance and environmental performance and are willing to make a commitment to continually improve their performance through the use of EMSs. In evaluating the EMS approach, the assessment should explore the availability/development of standards and technologies that could be incorporated into an EMS program.

Besides preparing an environmental plan under the ISM Code, three companies have prepared environmental compliance plans as mandated by U.S. District Courts after they pled guilty to marine discharge violations that occurred from 1993 through 1998. The courts approved these plans after finding they met the conditions set forth in the plea agreements. The plans generally address the violations cited in the plea agreements and prescribe remedies ranging from specific procedures covering a single component of waste management (such as oily bilge water management) to a more comprehensive set of procedures addressing system wide components of waste management.

2. Memoranda of Understanding (MOU), Codes of Conduct

As noted above in section I.D., some States are pursuing MOUs and Codes of Conduct with the cruise ship industry as a way to promote better environmental behavior. The assessment will consider the utility of this approach on a national scale.

D. Practices of Other Countries

A number of European countries have utilized the “special areas” concept under the MARPOL Protocol to prohibit broadly vessel discharges in their coastal waters. It would be helpful to examine how the application of that concept to U.S. coastal waters could assist in the control of pollution from cruise ships (and other commercial vessels).”

V. CONCLUSION

A preliminary look at available information on cruise ship waste generation, discharge patterns and controlling laws and regulations show that Federal laws and regulations for controlling these potential sources of pollution are significant but may not be completely comprehensive. In addition, applicable laws and regulations could be more comprehensively exercised. Although this paper did not contain enough information to draw final conclusions, it is clear from actions by some States and comments by GAO, the petitioners, and others that a perceived threat to the marine environment by cruise ship discharges warrants further assessment.

Therefore, this white paper recommends the following EPA actions:

- (1) Conduct an assessment of:
 - the volumes and characteristics of cruise ship waste streams and their potential impact on water quality and the marine environment;
 - the effectiveness of existing programs (regulatory and non-regulatory) for managing those waste streams; and
 - options for better environmental management of cruise ship waste streams including the issuance of regulations and/or voluntary environmental management programs such as public-private partnerships.
- (2) Solicit additional information from the petitioners, other environmental groups, the cruise ship industry, government agencies, and the public for incorporation into the assessment. Hold public information hearings in Los Angeles, California (Sept. 6, 2000); Juneau, Alaska (Sept. 8, 2000); and Miami, Florida (Sept. 12, 2000) where there is a large amount of cruise ship traffic as a way to solicit this information.
- (3) Once the assessment is drafted, make it available to the public.
- (4) Establish an interagency workgroup with EPA and the Coast Guard in primary roles to review the assessment and take appropriate action.
- (5) Continue to support Coast Guard, State and industry efforts to improve cruise ship waste management practices while assuring that these efforts are consistent with national policy and regulations.